SURFACE VEHICLE RECOMMENDED PRACTICE

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Superseding J1319 AUG2010

Rear Fog Lamp Systems

RATIONALE

The intent of the 2010 revision to SAE J1319 was to create a new photometric table to allow an incandescent rear fog lamp designed to meet photometric values specified in United Nations (UN) Regulation 38 to also meet the photometric values contained in this standard. The photometric values shown in Figure 1 were lower than the UN. Regulation 38 values to account for differences between the UN. Test voltage of 13.5 volts versus the design voltage of 12.8 volts for incandescent light sources typically used in rear fog lamps at that time. With these changes, SAE J1319 and UN Regulation 38 were harmonized with respect to photometric values for rear fog lamps utilizing incandescent light sources.

However, L.E.D. light sources that may operate at constant current were were not fully considered in the 2010 update of SAE J1319. Rear fog lamps utilizing L.E.D. light sources may provide the same light output at any given test point throughout a range of voltages. An L.E.D. rear fog lamp designed to meet the minimum photometric values of UN Regulation 38 would be able to meet the lowered photometric values in Figure 1 of the 2010 version of this standard.

The issue needing to be addressed is that L.E.D. rear fog lamps fulfilling the UN Regulation 38 requirement that the maximum luminous intensity in which all directions in which the lamp can be observed designed is 300 cd per lamp can fail the 250 cd maximum luminous intensity value shown Note 1 of Figure 1 of the 2010 version of this standard. This is because the light output of rear fog lamps utilizing L.E.D. light sources may not be reduced in the same manner that occurs in rear fog lamps utilizing incandescent light sources. Accordingly, Note 1 of Figure 1 of this standard has been revised to read "The maximum luminous intensity in all direction in which the lamp(s) can be observed is 300 cd per lamp." With this change, SAE J1319 and UN Regulation 38 are harmonized with respect to photometric values for rear fog lamps utilizing incandescent light sources and/or L.E.D. light sources.

Section 3.3 L.E.D. definition added. 6.1.7 Color section renumbered to 6.2 to coincide with 5.2 Color Test. Subsequent section numbers adjusted accordingly.

FOREWORD

UN Regulation 38, Revision 3, Rear Fog Lamps is similar to this Recommended Practice.

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Tel: +1 724-776-4970 (outside USA)
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Email: CustomerService@sae.org
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1. SCOPE

This SAE Recommended Practice provides test procedures, requirements, and guidelines for rear fog lamp systems.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications and the latest revision of UN Regulation 38 shall apply.

2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

SAE J567 Light Source Retention System

SAE J575 Test Methods and Equipment for Lighting Devices for Use on Vehicles Less than 2032 mm in Overall Width

SAE J576 Plastic Material or Materials for Use in Optical Parts Such as Lenses and Reflex Reflectors of Motor Vehicle Lighting Devices

SAE J578 Color Specification

SAE J585 Tail Lamps (Rear Position Lamps) for Use on Motor Vehicles Less than 2032 mm in Overall Width

SAE J759 Lighting Identification Code

2.1.2 ECE Publication

Available from United Nations Economic Commission for Europe, Palais des Nations, CH–1211, Geneva 10, Switzerland, Tel: +41-0-22-917-12-34, www.unece.org.

UN Regulation 38 Uniform Provisions Concerning the Approval of Rear Fog Lamps for Power-Driven Vehicles and Their Trailers

2.2 Related Publications

The following publications are provided for information purposes only and are not a required part of this SAE Technical Report.

2.2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

SAE J1889 L.E.D. Signal and Marking Lighting Devices

SAE J2139 Tests for Signal and Marking Devices Used on Vehicles 2032 mm or More in Overall Width

3. DEFINITIONS

3.1 REAR FOG LAMP

A lighting device providing a continuous red light of higher intensity than a tail lamp (SAE J585) for the purpose of marking the rear of a vehicle during fog or similar conditions of reduced visibility.

3.2 REAR FOG LAMP SYSTEM

One or two rear fog lamps with their respective wiring, connectors, switch, and a function indicator.

3.3 L.E.D.

A pn junction semiconductor device that emits incoherent optical radiation when forward biased. The optical emission may be in the ultraviolet, visible, or infrared wavelength regions. (ANSI definition).

4. LIGHTING IDENTIFICATION CODE

Rear Fog lamps shall be identified by the code F2 in accordance with SAE J759.

5. TESTS

5.1 SAE J575 is a part of this report.

The following tests are applicable:

5.1.1 Vibration Test

5.1.2 Moisture Test

5.1.3 Dust Test

5.1.4 Corrosion Test

5.1.5 Photometry Test

5.1.5.1 Photometric measurements shall be made with light source of the lamp at least 3 m from the photometer. The H-V axis shall be taken as parallel to the axis of reference of the lamp as mounted on the vehicle.

5.1.6 Warpage Test for Devices with Plastic Components

5.2 Color Test

5.2.1 SAE J578 is a part of this report.

6. REQUIREMENTS

6.1 Performance Requirements

A device, when tested in accordance with the test procedures specified in Section 5, shall meet the following requirements with the modifications indicated:

6.1.1 Vibration

SAE J575.

6.1.2 Moisture

SAE J575.

6.1.3 Dust

SAE J575.

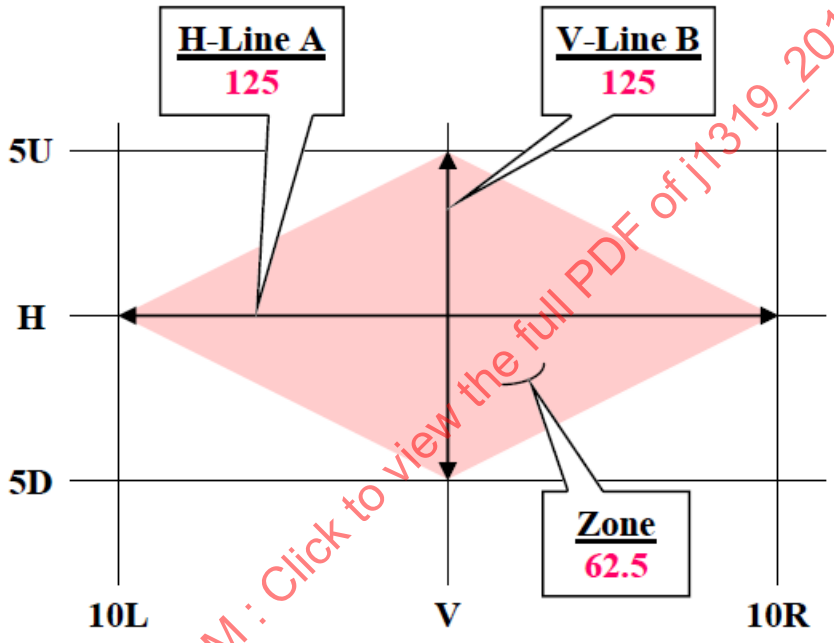
6.1.4 Corrosion

SAE J575.

6.1.5 Photometry

SAE J575.

6.1.5.1 The lamp shall meet the photometric performance requirements contained in Figure 1 and its footnotes.



1. The maximum luminous intensity in all directions in which the lamp(s) can be observed is 300 cd per lamp.
2. The minimum luminous intensity of 125 cd shown is required along the entire lengths of H-Line A and V-Line B (expressed in degrees of angle with the H-V axis of reference).
3. The minimum luminous intensity of 62.5 cd is required in the entire shaded zone (rhombus defined by the end points of H-Line A and V-Line B).

Figure 1 - Photometric requirements
minimum luminous intensity (cd)

6.1.6 Warpage

SAE J575.

6.2 Color

The color of light from a rear fog lamp shall be red as specified in SAE J578.

6.3 Materials Requirements

Plastic materials used in the optical parts shall meet the requirements of SAE J576.